

4^E

Mapping Document



Country: Austria

Technology: Televisions

Sub Category: All Televisions

Introduction

The first stage in the Mapping and Benchmarking process is the definition of the products, i.e. clearly setting the boundaries that define the products for use in data collection and analysis. Doing this ensures that comparison between the participating countries is done against a specific and consistent set of products.

The summary definition for this product is:

Television sets, defined as:

'A commercially available and mains electricity powered product consisting of a display and one or more tuner(s)/receiver(s) combined in a single housing. It is designed to receive, decode and display audiovisual signals and reproduce sound from analogue sources and/or digital sources that are decoded directly broadcast via satellite, cable or antenna signals. In the case of digital sources, decoding may be via any external adaptor or receiver.'

Data will be analysed based upon actual screen size, but may be presented if necessary in three size 'bins':

Screen size category
Small (11" to 26")

Screen size category
Medium (27" to 39")

Screen size category
Large (40" to 60")

For which segregation and analysis will be done through data requested on:

- Screen size
- Aspect ratio (used to calculate screen area and so consumption per unit screen area)
- Screen technology

Excluded are:

- Combination products (i.e. with integrated DVD player, VCR player / recorder, hard drive).
- Screen sizes over 60" and under 11"
- Television monitors and computer displays

The detailed product definitions can be found at the Annex website:

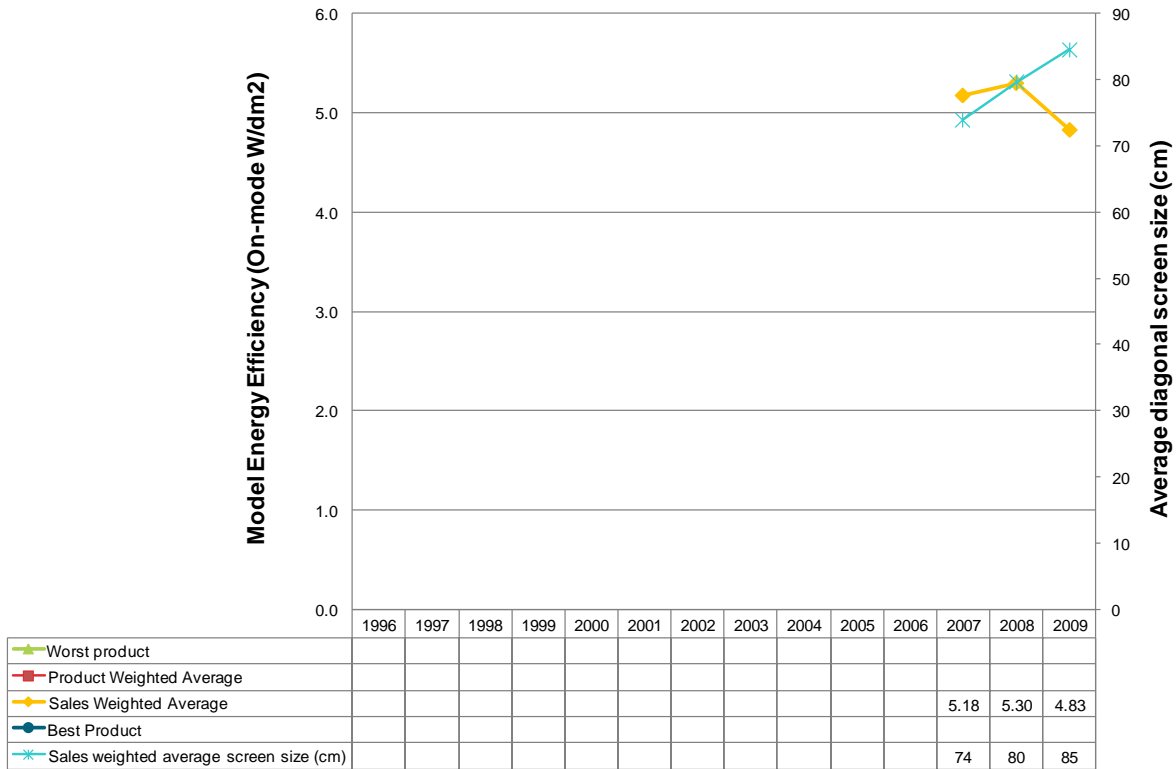
<http://mappingandbenchmarking.iea-4e.org/>

Issue date: October 10

Page | 1



Energy Efficiency of New Televisions Austria

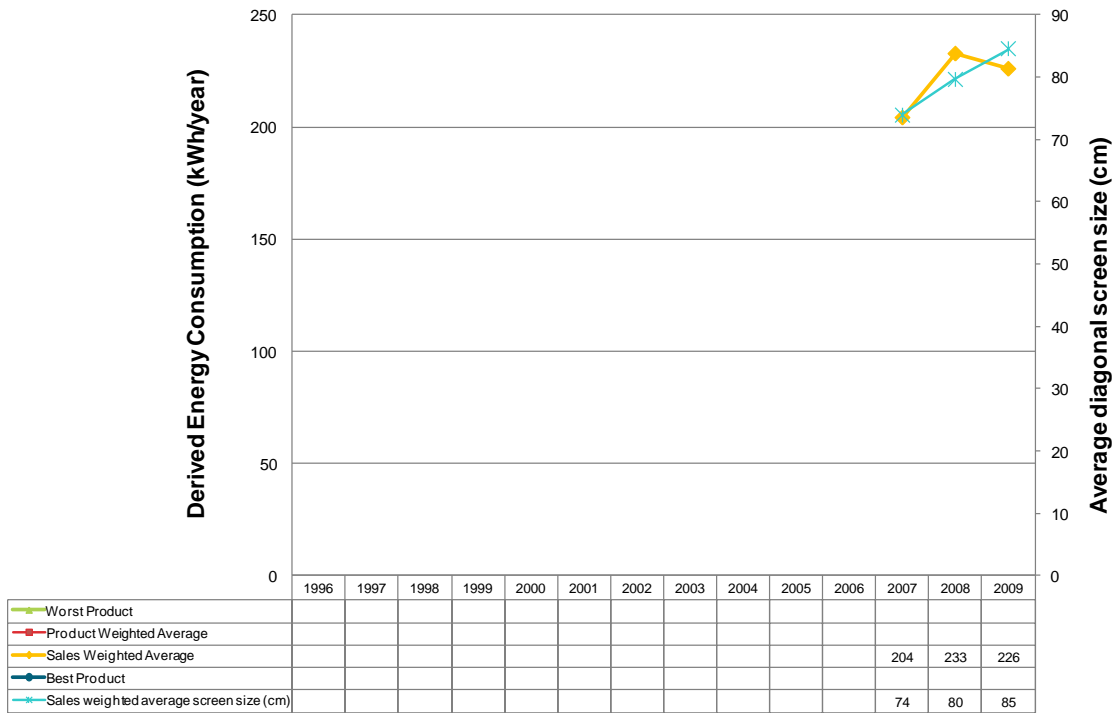


Key notes on Graph (see notes section 1)

- Graph is based upon on-mode consumption only per unit screen area (W/dm^2). Standby consumption is not relevant for this graph but is included in the consumption graph on the next page.
- The data set used contains only sales weighted average figures and so best and worst products cannot be plotted.
- In the 2009 data set the screen technology distribution was:
 CRT: 0% LCD: 92% Plasma: 8% Other: (Not included in data set)
 Note: 'Other technologies' typically account for less than 1% of the market within the EU.
- Note: Analysis of product efficiency in the subsequent TV benchmarking part of this project (ie comparison between different countries) was based upon an Energy Efficiency Index (EEI), in preference to the W/dm^2 data reported in all TV mapping documents. This change of approach was to enable fair comparison of efficiencies, since W/dm^2 data is highly dependent upon average screen size which varies between countries.

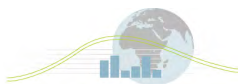


Energy Consumption of New Televisions Austria



Key notes on Graph (See notes section 2)

- Annual consumption is calculated based on 4 hours per day in on mode (assumption based upon Austrian TopTen analysis figures); 20 hours per day in standby mode.
- The data set used contains only sales weighted average figures and so best and worst products cannot be plotted.





Energy Efficiency in the Installed Television Stock Austria

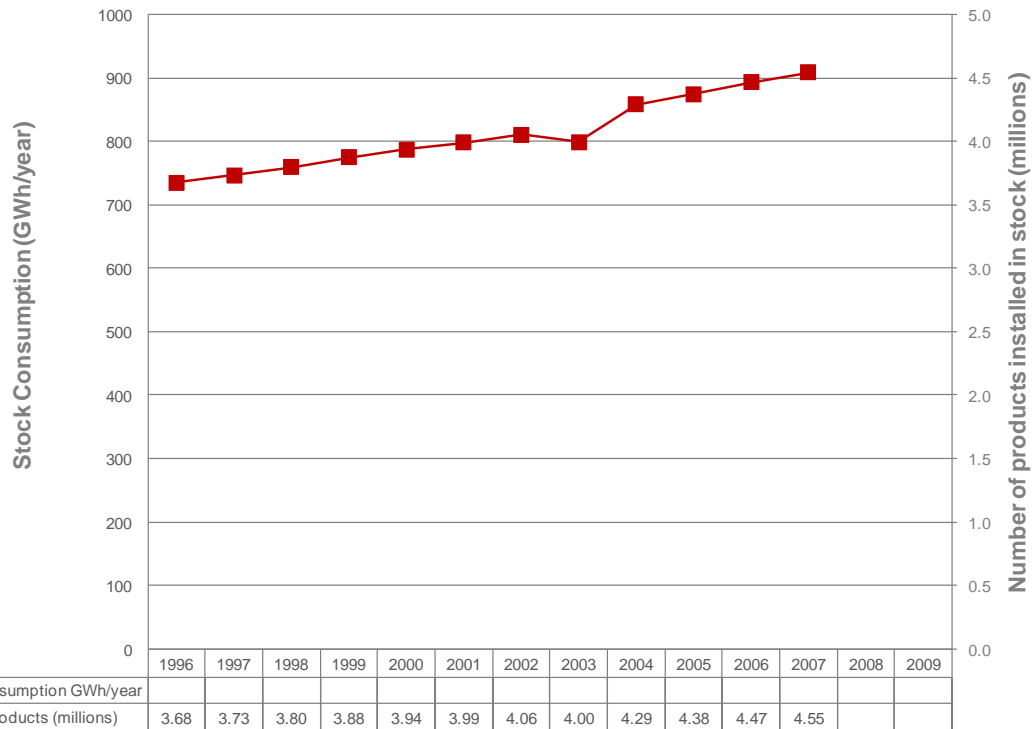
Key notes on Graph (See notes section 3)

- No data available for energy efficiency of the installed stock.





Energy Consumption in the Installed Television Stock Austria



Key notes on Graph (See notes section 4)

- Data included in the stock is an extract of data gathered for Austria for the ODYSSEE project. The ODYSSEE projects relies on databases that contain detailed data on the energy consumption drivers by end-use and sub-sector as well as energy efficiency and CO₂ related indicators. **Details of sources of the ODYSSEE data set and any assumptions made are not known. Therefore data should be used with caution.**
- No data available to plot stock consumption. Whilst data was available for energy consumption of 'entertainment electronics' in Austrian households for 2008, no data was available for how this could be broken down to extract television consumption alone.



Major Policy Interventions (See notes Section 5)

The Austrian Energy Agency has been a partner in the TopTen endorsement label project since 2005 (www.topprodukte.at). This project manages a label for products and a product database published on the Internet to identify the best performing products on the national market. This EU funded project (www.topten.info) now extends to 16 countries.

Top-produkte in Austria is part of the initiative klima: aktiv. klima:aktiv is the Austrian climate protection initiative launched by the “Federal Ministry of Agriculture, Forestry, Environment and Water Management”, embedded in the Austrian federal climate strategy. The primary objective of klima:aktiv is to introduce and promote climate friendly technologies and services.

A European Eco-design directive regulation regarding televisions (EC 642/2009) came into force in August 2009 and sets Minimum Energy Performance Standards (MEPS) in two tiers, from August 2010 and April 2012. It also requires standby consumption to be less than 1W from January 2010, (2W if the standby state provides information or status display), reducing to 0.5W and 1W respectively from August 2011. It also requires an auto power down feature to automatically switch to standby after four hours from August 2011.

Tier 1 (2010 to March 2012), aims to remove from the market HD¹-ready televisions of EEI 1.0 and above, and full HD televisions with EEI at above 1.07 to 1.11 (depending upon screen size). The Tier 2 MEPS from April 2012 will cover all televisions and aims to remove all televisions with EEI 0.8 or higher.

Cultural Issues (See Notes Section 6)

In 2007 the Austrian Statistics Agency initiated a project called “Electricity and Gas Daily Book” with the aim to investigate household energy consumption.

From this 2008 Micro-census² it is known that approximately 4% of the households surveyed have no television. 88% have at least one CRT television, 19% have at least one LCD television and 2% have at least one plasma TV.

¹ HD = High Definition, which means a ‘1080p’ resolution, or 1,080 horizontal scan lines with progressive scan (rather than interlaced which would be 1080i).

² Reference: „Strom- und Gastagebuch 2008: Strom- und Gaseinsatz sowie Energieeffizienz österreichischer Haushalte. Auswertung Gerätebestand und Einsatz“. Statistik Austria/ Direktion Raumwirtschaft, Energie, Wien 2009.



Notes on data

Section 1: Notes on Product Efficiency

1.1 Test methodologies, Performance Standards and Labelling Requirements

The data was provided from GfK and quotes no specific test methodology. Its comparison with known sources should therefore be treated with caution. For reference the different test methods or assumptions that could be used to derive such data could result in variations of the order of 30% for any given product.

1.2 Product Efficiency Graphic

Source: Consolidated data was supplied directly from GfK for the purposes of the IEA 4E Mapping and Benchmarking Annex. This does not contain data on individual products and therefore cannot be used to derive best or worst product data. Data were provided on LCD, Plasma and CRT screen types separately, with screen size, on mode and standby mode consumption averages.

Key calculations undertaken:

Calculating screen areas: Firstly, convert diagonal screen size inches to dm (x0.254 for inches), square the number, then multiply by the factor below. If no aspect ratio was given an assumed ratio is used (based on statistical profile of TVs at 2008). As the data was divided into 'bins' of screen size (e.g. sales for televisions between 33 inches and 36 inches diagonal screen size), an assumed average screen size at the mid-point of the bin range is used to calculate an average screen area for products in that range.

Aspect Ratio	Factor ³
16:9	0.427
16:10	0.449
4:3	0.48
Unknown	0.427

Usage assumptions:

Hours spent in on-mode is assumed from the Austrian TopTen⁴ project, which uses 4 hours per day, with the remainder in standby mode. Each value of consumption (W) is multiplied by hours per day x 365 to get Wh per year, divided by 1000 to get kWh per year.

Efficiency (W/dm²) is W in on mode, divided by screen area in square decimetres. (1 dm² = 100 cm²).

³ Factors are calculated from $\sin\Theta \cdot \cos\Theta$, where Θ is the angle between diagonal and the horizontal for that aspect ratio. Since vertical dimension = $d \cdot \cos\Theta$ and horizontal dimension = $d \cdot \sin\Theta$, so area is $d^2 \cdot \sin\Theta \cdot \cos\Theta$, where d is the diagonal dimension. If aspect ratio is unknown and data is recent then it is most likely to be a 16:9 ration screen.

⁴ <http://www.topprodukte.at/>



Sales Weighted Energy Efficiency of New Products: (Sum of (Product Energy Efficiency by size and technology multiplied by sales volume of Product by size and technology in year) for all Products) divided by (Sum of sales volume of all Products in year)

Model Weighted Energy Efficiency of New Models. This was not used for this data set as no product specific data were available

Proportion of data set included: All of the data made available was used in the analysis. GfK data typically covers over 90% of television sales in EU markets.

Section 2: Notes on Product Consumption

2.1 Test methodologies, Performance Standards and Labelling Requirements

Refer to section 1.1.

2.2 Product Consumption Graphic

Refer to section 1.2

Section 3: Notes on Efficiency of Stock

Refer to section 1.2

Section 4: Notes on Consumption of Stock

Refer to section 1.2

Section 5: Notes on Policy Interventions

Full details of the eco-design directive regarding televisions – see

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:191:0042:0052:EN:PDF>

Section 6: Notes on Cultural Issues

None.